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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/851,284

05/08/2001

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1999-0647

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7590

09/09/2004

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EXAMINER

DAVIS, CYNTHIA L

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,284

Applicant(s)

DURINOVIC-JOHRI ET AL.

Examiner

Cynthia L Davis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1-16 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Masuda (6201810).

Regarding claim 1, a method comprising monitoring congestion status on each output port of the router is disclosed in Masuda, figure 1, element 14. Switching, upon detection of congestion on one of the output ports, output of data from a primary output path of the one of the output ports corresponding to a destination address of the data to be output to an overflow path for the destination address is disclosed in Masuda, figure 1, element 11 and column 4, lines 4-12.

Regarding claim 2, detecting when congestion has abated is disclosed in Masuda at figure 1, element 14. Switching the output of data from the overflow path back to the primary path for the destination address is disclosed in Masuda, figure 1, element 11 and column 5, lines 46-47 (the path selection unit switches the optimum path on a real time basis, so that when the congestion status monitor detects that congestion has abated, the path selection unit will switch back to the original optimum path).

Regarding claim 3, storing a forwarding table in the router is disclosed in Masuda, figure 1, elements 131 and 132. The information in the routing table together with the tree table make up a forwarding table for the network, containing information regarding destination addresses in the network (column 5, lines 36-7), and identifying at least two output paths from the router for at least some of the destination addresses (the H/W table holds whichever optimum path has been selected based on the instant congestion levels; sometimes it will be the usual optimum path, sometimes it will not. Masuda, column 8, lines 4-7).

Regarding claim 4, determining, upon detection of congestion of one of the output ports, which one of the at least two overflow paths from which to output the data based upon an amount of data currently assigned to be output from each of the at least two overflow paths is disclosed in Masuda, figure 1, element 12 and column 8, lines 30-36 (if buffer overflow occurs, a portion of the data will be temporarily rerouted to another path not containing any congested links).

Regarding claim 5, determining the amount of data currently assigned to be output from each of the at least two output paths, determining which one of the at least two overflow paths has the least amount of data to be output, and assigning the data to be output from the at least one of the overflow paths having the least amount of data to be output is disclosed in Masuda, figure 1, element 12 and column 8, lines 30-36 (if buffer overflow occurs, a portion of the data will be temporarily rerouted to another path not containing any congested links).

Regarding claim 6, monitoring receipt of congestion signals from at least two transmit buffers respectively associated with at least two output ports of the router is disclosed in Masuda, figure 1, element 14. Detecting a congestion signal from at least one of the at least two transmit buffers in the router is disclosed in Masuda, figure 1, element 14. Switching, for all of the destination addresses in the forwarding table affected by the detection of congestion and eligible for overflow routing, from the primary path to one of the overflow paths for transmitting the data is disclosed in Masuda, figure 1, element 11 and column 4, lines 4-12.

Regarding claim 7, determining when the congestion has abated based upon status of the congestion signals is disclosed in Masuda, figure 1, element 14. Switching for all of the destination addresses in the forwarding table switched to overflow routing from the overflow path back to the primary path when the congestion has abated is disclosed in Masuda, figure 1, element 11 and column 5, lines 46-47 (the path selection unit switches the optimum path on a real time basis, so that when the congestion status monitor detects that congestion has abated, the path selection unit will switch back to the original optimum path).

Regarding claim 8, storing a forwarding table in the router is disclosed in Masuda, figure 1, elements 131 and 132. The information in the routing table together with the tree table make up a forwarding table for the network, containing information regarding destination addresses in the network (column 5, lines 36-7), and identifying at least two output paths from the router for at least some of the destination addresses (the H/W table holds whichever optimum path has been selected based on the instant

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congestion levels; sometimes it will be the usual optimum path, sometimes it will not. Masuda, column 8, lines 4-7). Monitoring receipt of congestion signals from at least two transmit buffers respectively associated with at least two output ports of the router is disclosed in Masuda, figure 1, element 14. Detecting a congestion signal from at least one of the at least two transmit buffers in the router is disclosed in figure 1, element 14. Switching for all of the destination addresses in the forwarding table affected by the detection of congestion and eligible for overflow routing from the primary path to the overflow path for transmitting the data is disclosed in Masuda, figure 1, element 11 and column 4, lines 4-12.

Regarding claim 9, determining when congestion has abated based upon status of the congestion signals is disclosed in Masuda at figure 1, element 14. Switching for all of the destination addresses in the forwarding table switched to overflow routing, from the overflow path back to the primary path when the congestion has abated is disclosed in Masuda, figure 1, element 11 and column 5, lines 46-47 (the path selection unit switches the optimum path on a real time basis, so that when the congestion status monitor detects that congestion has abated, the path selection unit will switch back to the original optimum path).

Regarding claim 10, running a routing protocol on a router is disclosed in Masuda, column 5, line 38. Determining at least two output paths for each of a plurality of destination addresses based upon the routing protocol is disclosed in Masuda, figure 1, element 11. Determining which of the destination addresses are eligible for overflow routing is disclosed in Masuda, column 10, lines 40-55 (based on the priority and costs

associated with each link, and the physical topography of the network, some addresses may not be eligible for rerouting). Storing, for each of the addresses eligible for overflow routing, the at least 2 output paths is disclosed in figure 1, element 82, and column 8, lines 26-35.

Regarding claim 11, storing, for each of the destination addresses other than the destination addresses eligible for overflow routing, one output path is disclosed in Masuda, figure 1, element 82 and column 8, lines 26-35.

Regarding claim 12, monitoring congestion status on each output port of the router is disclosed in Masuda, figure 1, element 14. Switching, upon detection of congestion on one of the output ports output of data from a primary output path of the one of the output ports corresponding to a destination address of the data to be output to an overflow path for the destination address is disclosed in Masuda, figure 1, element 11 and column 4, lines 4-12.

Regarding claim 13, detecting when congestion has abated is disclosed in Masuda, figure 1, element 14. Switching the output of data from the overflow path back to the primary path for the destination address is disclosed in Masuda, figure 1, element 11 and column 5, lines 46-47 (the path selection unit switches the optimum path on a real time basis, so that when the congestion status monitor detects that congestion has abated, the path selection unit will switch back to the original optimum path).

Regarding claim 14, monitoring congestion status on each output port of the router, wherein the congestion status is one of a plurality of levels of congestion is disclosed in Masuda, figure 1, element 14. Detecting a level of congestion from the

plurality of levels of congestion on at least one output port of the router is disclosed in Masuda, figure 1, element 14. Determining the amount of data to be overflowed based upon the level of congestion is disclosed in Masuda, figure 1, element 12 and column 8, lines 30-36 (if buffer overflow occurs, a portion of the data will be temporarily rerouted to another path not containing any congested links). Switching, upon detection of the one of the plurality of levels of congestion on the at least one output port, the amount of data to be overflowed from a primary output path of the at least one output port corresponding to a destination address of the data to be output to an overflow path for the destination address is disclosed in Masuda, figure 1, element 11 and column 4, lines 4-12.

Regarding claim 15, detecting the level of congestion has abated is disclosed in Masuda, figure 1, element 14. Switching the output of the at least one output port from the overflow path back to the primary path is disclosed in Masuda, figure 1, element 11 and column 5, lines 46-47 (the path selection unit switches the optimum path on a real time basis, so that when the congestion status monitor detects that congestion has abated, the path selection unit will switch back to the original optimum path).

Regarding claim 16, storing a forwarding table in the router is disclosed in Masuda, figure 1, elements 131 and 132. The information in the routing table together with the tree table make up a forwarding table for the network, containing information regarding destination addresses in the network (column 5, lines 36-7), and identifying at least two output paths from the router for at least some of the destination addresses (the H/W table holds whichever optimum path has been selected based on the instant

congestion levels; sometimes it will be the usual optimum path, sometimes it will not. Masuda, column 8, lines 4-7). Storing, for each of the at least some of the destination addresses, a plurality of overflow data amounts respectively corresponding to the plurality of levels of congestion is disclosed in Masuda, figure 1, element 12 and column 8, lines 30-36 (if buffer overflow occurs, a portion of the data will be temporarily rerouted to another path not containing any congested links. The amount of data overflowed based on the congestion will be present in the memory of the optimizing unit at some point).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

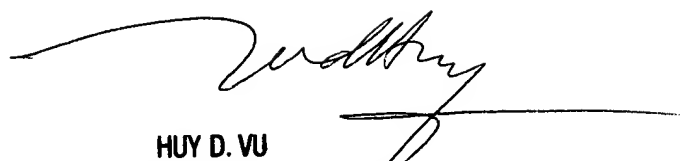
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